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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/619,264	07/19/2000	Aruna B. Kumar	60237	1298

23735 7590 03/13/2002

DIGIMARC CORPORATION
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EXAMINER

MILLER, MARTIN E

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 03/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/619,264

Applicant(s)

KUMAR

Examiner

Martin Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on amendment filed 1-17-02.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6&7. 6) ☐ Other:

DETAILED ACTION

Information Disclosure Statement

1. The IDSs filed January 4, 2002 and February 19, 2002 have been entered and initialed copies are attached to this office action.

Response to Amendment

2. The amendment filed January 4, 2002 has been entered into the record.
3. The 35 U.S.C. 101 rejection of claims 1-6 is withdrawn per Examiner Johns agreement in the interview summary.
4. The 35 U.S.C. 102 rejection of claims 1-3 is withdrawn in light of applicants amendment and arguments. The 35 U.S.C. 103 rejections of claims 4-6 and 7-13 are, also, withdrawn in light of applicant's amendment and arguments.
5. A new action on the merits is enclosed with this office action.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
7. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krug et al. (hereinafter Krug), US 5534890 and, Zhao et al. (hereinafter Zhao), US 6243480 B1.

As per claim 1, Krug teaches:

a paper medium (col. 1, ll. 14-15) carrying a message(data matrix, col., 2, ll. 42-45); the message including paper control information related to the paper medium (col. 1, ll. 16-18, col. 6, ll. 26-27) that is readable by a machine from an image captured of at least a portion of the paper medium (col. 6, ll. 3-6), and that is operable to control (col. 7, ll. 1-16) a printer so as to

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optimize print quality for physical characteristics (col. 1, ll. 55-66) of the paper medium (col. 9, ll. 25-39). However, Krug does not teach that the message is steganographic. But Zhao teaches that digital watermarking techniques can be used in lieu of barcodes. Zhao teaches documents that send messages when operated on by the document scanner (abstract, col. 7, ll. 31-35, and compare figure 2 with figure 3). In figure 2, Zhao teaches the use of a barcode to convey information, whereas in figure 3, Zhao teaches that a steganographic watermark can convey the same information as the barcode in figure 2.

It would have been obvious to one of ordinary skill in the art to use the suggestion of Krug that the control information can be provided on the paper in combination with the suggestion by Zhao that a steganographic watermark can be decoded and used as control information. The motivation to use a watermark in place of a barcode would be to maintain the aesthetic value of the paper.

Claims 7, 13, 15, and 16 recite substantially the same limitations as claim 1 above and analogous remarks apply.

As claim 2, Krug teaches:

wherein the printer control information (data matrix) includes one or more identifiers that are used to look up printer control information used to optimize printer operation for the paper medium. (col. 2, l. 66-col. 3, 6).

As per claim 3, Krug teaches:

wherein printer control information (data matrix) includes characteristics information of the paper medium. (compatible thermal energies, col. 7, ll. 1-16).

As per claim 4, Zhao teaches;

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wherein the steganographic message is encoded in a digital watermark (col. 4, ll. 60-61).

As per claim 5, Zhao teaches:

wherein the digital watermark is embedded on the paper medium using invisible ink.

Official Notice-invisible ink is well known in the steganographic arts) Digital watermarking texts teach that the uses of invisible inks were well known until the invention of universal ink developers.

As per claim 6, Zhao teaches:

a digital watermark (col. 4, ll. 58-63). Krug teaches that the information is repeated throughout at least a portion of the paper medium (barcode markings, col. 6, ll. 4-6),

As per claim 8, Zhao teaches:

wherein the image sensor is part of a scanning subsystem in a multifunctional device (copier, col. 17, l. 13)

As per claim 9, although Zhao does not specifically teach a CCD array, it is well-known that copiers (col. 17, l. 13) are equipped with CCD arrays.

As per claim 10, Zhao teaches that his active watermarks contain program code (abstract) and it is well known that computers utilize look-up tables to access data more efficiently,

However, Zhao does not specifically teach the following limitation. However, Krug teaches:

wherein the printer control unit uses the printer control information (data matrix) used to control the operation of the printer (col. 2, l. 66-col. 3, l. 6).

As per claim 11, Krug teaches:

including a computer connected to a printer; wherein the decoder comprises program code executing on the computer (figure 2).

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As per claim 12, Zhao teaches:

wherein the decoder comprises a watermark decoder (reader, col. 7, ll. 32-35).

As per claim 14, Zhao teaches:

wherein the steganographically decoding includes decoding the message from a watermark embedded in the print media (col. 14, ll. 24-35).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following U.S. patent(s) refer(s) to: invisible ink, Carlsen et al., US 3676646.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

10. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Miller whose telephone number is (703) 306-9134. The examiner can normally be reached on Monday-Friday, Maxi-flex. If attempts to reach the

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examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

MEM
mem

March 4, 2002


AMELIA M. AU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600